

What is claimed is:

- 1 1. A cassette for a plurality of components for a cam drive and timing system for an
2 engine the components comprising a guide and a tensioner attached to a tensioner
3 bracket, a chain, a camshaft sprocket, and a crankshaft sprocket, the cassette
4 comprising:
5 a body defining receiving holes and shoulder guides for placement of the
6 camshaft sprocket, the crankshaft sprocket and the chain; and
7 at least one fastener engaging the body of the cassette to the tensioner
8 bracket, such that when the body of the cassette is engaged to the
9 tensioner, the chain runs around the camshaft sprocket and the
10 crankshaft sprocket, and the guide and the tensioner are positioned
11 relating to the chain in the same relationship and position as the
12 components are installed on the engine, all components are
13 pivotally placed for installation on the engine.
- 1 2. The cassette of claim 1, further comprising a loop integral with the body of the cassette.
- 1 3. The cassette of claim 1, wherein the at least one fastener is a pair of hooks or a
2 moveable fastener having an engagement surface. .
- 1 4. The cassette of claim 3, wherein the moveable fastener having the engagement surface
2 further comprises a head with the engagement surface and a shaft.
- 1 5. The cassette of claim 4, wherein the moveable fastener further comprises a tab attached
2 to the shaft..
- 1 6. The cassette of claim 5, wherein the tab attached to an end of the shaft is biased by a
2 spring.
- 1 7. The cassette of claim 4, wherein the moveable fastener further comprises threads at the
2 end of the shaft..

1 8. The cassette of claim 1, wherein the components for the cam drive and timing system
2 engaging the cassette are in the correct timing and position.

1 9. The cassette of claim 1, further comprising a lock slot at a top of the clearance holes.

1 10. The cassette of claim 1, wherein the tensioner bracket further comprises stand-off
2 threaded bosses at a top of the clearance holes.

1 11. The cassette of claim 1, further comprising a protection shield for the camshaft
2 sprocket.

1 12. A method of packing and shipping a cassette for a plurality of components for a cam
2 drive and timing system for an engine the components comprising a guide and a
3 tensioner attached to a tensioner bracket, a chain, a camshaft sprocket, and a
4 crankshaft sprocket, the method comprising the steps of:

5 a) placing the components for the cam drive and timing system for the
6 engine onto a cassette, the cassette comprising:

7 a body defining receiving holes and shoulder guides for placement of
8 the camshaft sprocket, the crankshaft sprocket and the chain;
9 and

10 at least one fastener engaging the body of the cassette to the tensioner
11 bracket, such that when the body of the cassette is engaged to
12 the tensioner, the chain runs around the camshaft sprocket and
13 the crankshaft sprocket, and the guide and the tensioner are
14 positioned relating to the chain in the same relationship and
15 position as the components are installed on the engine, all
16 components are pivotally placed for installation on the engine;

17 b) shipping the cassette with the components for the cam drive and
18 timing system; and

19 c) installing the components for the cam drive and timing system
20 using the cassette.

1 13. The method of claim 12, wherein the components for the cam drive and timing system
2 engaging the cassette are in the correct timing and position.

1 14. The method of claim 12, wherein the installation of the components for the cam drive
2 and timing system using the cassette comprises the steps of:

3 a) placing the cassette engaging the cam drive and timing system onto the
4 engine;

5 b) securing the camshaft sprocket and the crankshaft sprocket to their
6 respective shafts;

7 c) disengaging the at least one fastener holding the tensioner bracket to the
8 cassette, wherein the cassette drops down, such that clearance holes
9 defined by the cassette line up with receiving holes defined by the
10 engine;

11 d) securing the remaining components for the cam drive and timing system
12 to the engine;

13 e) removing a pin from the tensioner, allowing the tensioner to exert
14 pressure on the chain; and

15 f) removing the cassette from the engine.

1 15. The method of claim 14, wherein the removal of the cassette from the engine is done
2 axially.

1 16. A method of installing a plurality of components for a cam drive and timing system for
2 an engine the components comprising a guide and a tensioner attached to a
3 tensioner bracket, a chain, a camshaft sprocket, and a crankshaft sprocket using a
4 cassette, the method comprising the steps of

5 a) placing a cassette engaging the cam drive and timing system onto the
6 engine, the cassette comprising:

a body defining receiving holes and shoulder guides for placement of the camshaft sprocket, the crankshaft sprocket and the chain; and

at least one fastener engaging the body of the cassette to the tensioner bracket, such that when the body of the cassette is engaged to the tensioner, the chain runs around the camshaft sprocket and the crankshaft sprocket, and the guide and the tensioner are positioned relating to the chain in the same relationship and position as the components are installed on the engine, all components are pivotally placed for installation on the engine;;

b) securing the camshaft sprocket and the crankshaft sprocket to their respective shafts;

c) disengaging the at least one fastener holding the tensioner bracket to the cassette, wherein the cassette drops down, such that clearance holes defined by the cassette line up with receiving holes defined by the engine;

d) securing the cam drive and timing system to the engine;

e) removing a pin from the tensioner, allowing the tensioner to exert pressure on the chain; and

f) removing the cassette from the engine.

17. The method of claim 16, wherein the removal of the cassette from the engine is done axially.

18. The method of claim 16, wherein the components for the cam drive and timing system engaging the cassette are in the correct timing and position.